

Checklist and Tips for giving a (decent) technical talk

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- Who is in the **audience**?

This is the most important question. Do you need to explain what the Fourier transform is to a signal processing audience? Probably not. But you probably have to explain what the acronym OFDM means if you are giving a talk in the math department. Assess the audience's technical level before even preparing your slides. You can do this in many ways: ask your host, look at previous talks in the seminar series. How much background information should you convey so that you audience would not be either supremely bored or completely lost? Confusing your audience is not equivalent to impressing them.

- What is the **context** of my work?

Put your work in context. Very likely, your work will be built off someone else's work. Why should the audience care about your work? If you are presenting something along the lines of algorithms and techniques for filter design, how does it relate to the existing literature of filter design? Have you managed to convince the audience that you have left the literature in a better state than before you entered the field?

- What is the one main **message** I would like to convey?

Just one. Regardless of how much time you have (be it 20 mins for a conference talk or 50 mins for a job talk), it is important to ask yourself this question before you prepare your talk. The audience is a forgetful and restless bunch. You'll be lucky if you're able to convey a single message during the talk, let alone three or four. Having said that, it is worth summarizing your main contributions at the start of the talk. But the talk should be directed towards ensuring that your audience takes home one key message.

- Do my **slides** contain sufficient or too much detail?

Slides... The perennial bugbear. Illustrations convey infinitely more information than words. When a presenter is speaking, I find it impossible to do two things simultaneously: listen to him/her and read words on the slides. But listening to him/her while parsing a well-crafted figure is *much* easier. After you have made each slide, ask yourself whether you can remove unnecessary words and replace them with illustrations. Are your performance plots readable and can they be parsed easily? If you superimpose 7 lines on a plot, it is unlikely that the audience will understand what the message you're trying to convey is.

- When will I have my audience's undivided **attention**?

On your title slide. That's it. Once you go to slide number two you will start to lose people. People will start reading your slides and will no longer be exclusively listening to you. They will start trying to connect your topic to what they already know, start trying to figure out how they've already proven your result in one of their earlier papers, start daydreaming, start falling asleep. If you have something important to say – your main message – get it

across at the start of your talk; preferably when you're still on your title slide. That said, in a longer talk you can help the audience by periodically recapping the discussion to that point, letting the audience know what concepts carry forward in the remainder of the talk.

- Have I **practiced** my talk?

Practice, practice, practice! For inexperienced speakers, practicing and getting constructive feedback from your peers within your department is the best way to prepare for a talk outside your department, where the audience may be more hostile. Remember, going overtime is the worst crime you can ever commit. It's disrespectful of the audience. In addition, people will quite often need to leave when your allocated time is up – perhaps for another meeting, perhaps to catch a talk in a parallel conference session. Ask yourself whether you would like to be in the audience if you're speaking? In other words, are you passionate about what you're presenting? Do you speak loud enough? Do you appear confident? Finally, humor never hurts!

- How do I **engage** my audience?

Tell them a story. Everyone loves stories. We've been listening to stories since we first came into this world. People have been listening to stories for all of human history. It's ingrained. Turn this genetic/cultural disposition to your advantage. We're not necessarily wired to hear stories about math (especially engineers). We are wired to hear stories about concepts and intuition. Pitch your main message as a story on your first slide (when you have their attention) and focus on that single message, that single concept, that you want them to exit with. The old adage “tell them what you going to tell them, then tell them, then tell them what you told them” is good one. Outline the story to come on your title slide.